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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,023	03/03/2004	Tanya Smith Richardson	M0723.70001US00	1360

7590 05/04/2007
Robert H. Walat
Wolf, Greenfield & Sacks, P.C.
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Boston, MA 02210

EXAMINER

HUG, ERIC J

ART UNIT	PAPER NUMBER
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1731

MAIL DATE	DELIVERY MODE
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05/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/792,023	Applicant(s) RICHARDSON, TANYA SMITH	
	Examiner Eric Hug	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 18-31, 36 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-8, 15, 16, 18-31, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date.. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

The following is in response to the amendment filed on March 6, 2007.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5-8, 15, 16, 18-31, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP 05-033279) in view of Renard et al (US 4,579,628). (JPO machine translation provided for JP 05-033279).

Takahashi discloses eliminating fluorescence in a recycled pulp using chlorine dioxide. The method is suitable for treating a waste paper pulp slurry having fluorescent dyes intended for the making of sanitary or food-related papers. In the examples, waste paper having a measured fluorescence intensity of 3.0 was slurried at 2% consistency. The slurry was adjusted to a pH between 4-10, then chlorine dioxide was added to the pulp. The slurry was filtered and formed into paper. The fluorescence of the formed paper was then measured. Results are given in Table 1. In some instances fluorescence was eliminated, and in others it was not eliminated. Fluorescence was eliminated when conditions met the expression:

$$Y \geq 0.034 * X_2 - 0.475 * x + 1.599 + 0.067 * Z_f$$

Y is the amount of chlorine dioxide added (in terms of available chlorine), X_2 is the pulp concentration, X is the pH of the waste paper slurry, and Z_f is the fluorescent intensity before treatment.

Thus, Takahashi discloses eliminating fluorescence in recycled pulps using an effective amount of chlorine dioxide depending on the consistency, pH, and fluorescent intensity.

Fluorescence is eliminated as long as the equation above is satisfied. The teachings of Takahashi is not limited to any pH or pulp consistency, therefore Takahashi encompasses all claimed pH's and consistencies. The difference between the method of Takahashi and that of the claimed invention is that Takahashi does not disclose adjusting the oxidation-reduction potential of the waste paper slurry after the addition of chlorine dioxide.

Renard is cited here to show that sulfites are known reducing agents for papermaking pulp bleached with chlorine dioxide alone or in combination with other bleaching agents. Reducing transforms the bleached pulp from a higher oxidation state to a lower oxidation state. The benefits of this transformation include increased brightness stability, lower residual color, and reduced consumption of subsequent bleaching chemicals. At the time of the invention, it would have been obvious to one skilled in the art to utilize sulfite in the method of Takahashi to provide the benefits taught by Renard. The amount of sulfite needed would be obviously determined through routine experimentation, depending on the amount of chlorine dioxide added to completely eliminate fluorescence.

Claims to phosphorescence elimination have been given the same weight as those to fluorescence elimination. The method taught by Takahashi teaches using excess chlorine dioxide, and this includes amounts expected to be sufficient to eliminating phosphorescence.

Allowable Subject Matter

Claims 2-4 and 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-4 are allowable for further providing a polymer.

Claims 9-14 are allowable for adding a bleaching agent in a bleaching step prior to addition of chlorine dioxide.

Response to Arguments

Applicant's arguments filed March 6, 2007 have been considered. In view of the arguments and amendments to the claims, all rejections set forth previously have been withdrawn. A new ground of rejection is set forth above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

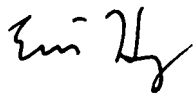
JP 11-269788- Nishino discloses fluorescence elimination a papermaking slurry containing old paper pulp with fluorescent dyes. Old paper pulp is mixed with chlorine-based bleached Kraft pulp containing residual chlorine activity.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric Hug
Primary Examiner